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Extent, Costs and Significance of Public Employment in the United States

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PREFACE

The following study of public employment, salary payments and operating budgets of all public authorities was begun in 1927. In the absence of a systematic method of public reporting on the one hand and of necessary local records in many jurisdictions on the other, the investigation was beset with many obstacles. Frequently local investigators had to be discovered at long range. Since competency and ability to unearth information that may or may not have been recorded, were requisite qualities, this proved to be no simple task. If it had not been for the coöperation of various public officials, university professors, graduate students and research agencies scattered about the country, the undertaking would necessarily have been given up. Grateful appreciation of their coöperation is expressed at this point. The names of coöperating individuals and organizations will be found in the Appendix.

We would also acknowledge our obligation to Mrs. Marguerite Hartman and Mrs. Margaret B. Jenness, both of whom assisted in following up leads and compiling returns.

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Public Employment in the United States

MORE than 3,500,000 full and part-time governmental employees receive $2,-600,000,000 annually in salaries and wages

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In SPITE of the uninterrupted expansion and growing importance of governmental activities and the consequent increase of those engaged in the public service, there seems to be but little appreciation of the rôle played by governmental employees in modern life and practically no social prestige attaching to the status of those who have entered upon a public career. In fact there are no countries of the rank and character of the United States where public servants enjoy so little prestige as in this country.[1] As a consequence comparatively few of the abler young men or women look forward to a career in public employment. Almost no systematic instruction for such a career is offered in our higher educational institutions. Vocational advisers, college deans and similar officials, rarely direct the attention of the young people coming under their influence to opportunities for satisfactory life-work in the employ of public agencies.

Inasmuch as the public either through direct taxation or by private gifts supports the schools, colleges and universities, it is reasonable to expect that they should be mobilized to train on the one hand and to stimulate on the other a fair quota of their abler graduates in the direction of a public career, particularly in view of the far-flung and essential activities carried on by modern government in its various ramifications. We have here the paradox of intricate and challenging administrative problems whose solutions depend on the abilities of a personnel of largely a mediocre character. That there are exceptions and notable exceptions to this generalization is readily granted. But in the main those who are recruited into the governmental service are of mediocre caliber and, as is well known, it is the character of the recruits which determines the quality of the work in any type of occupation.

One measure of the significance of governmental service is the number of those who are on the public payrolls, whether on a part or a full-time basis, and also the percentage of public expenditures which are chargeable to the item of compensation. This investigation aims to bring together data which will serve as a basis for estimating these facts and incidentally for correcting previous estimates which, so far as the number of employees goes, have varied by as much as one to two and one-half millions.

The proportions of the task will become apparent when it is considered

[1] White, Leonard, *Prestige in Public Employment*, University of Chicago Press.

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that there are apart from the federal and the forty-eight state governments, 3,054 counties, 16,691 cities and incorporated towns and eight real or virtual city-county consolidations. When it is further considered that there is in the main no uniform reporting system and, indeed, in the majority of cases no reporting system at all, the difficulties of arriving at a satisfactory estimate will be evident.

The jurisdictions included are: (1) Federal government, (2) states, (3) counties, (4) incorporated towns [1] and cities, and (5) public school systems.

SOURCES

The sources used consist of a considerable number of field investigations carried on by bureaus of municipal and state research, college instructors, graduate students, financial officials of various units and special assistants. Their findings were checked against published budgets, annual reports and census figures. In the absence of field investigations recourse was taken to published documents. Finally, when neither of these sources were available, class averages were applied to the units not otherwise covered, the classification being determined on a population and a regional basis. The shortcomings of the investigation are chargeable to the necessity of applying averages, particularly to the counties and small cities and towns. For example, returns on full-time employees were secured from 130 counties and operating budgets

[1] All towns in Massachusetts, Rhode Island and New Hampshire, with a population of 2,500 and over, were included, whether incorporated or not. Other unincorporated towns and townships were omitted (1) because of the practical impossibility of securing sufficient data and (2) because most of the officials work on a part-time basis and are often paid by fees which are customarily not reported and not available even through personal interviews.

from 196 of a total 3,054 counties. But the distribution was fairly representative, as the counties were divided, first, according to metropolitan, urban and rural classes and, second, on the following regional basis: New England, North Central, South Central and Southern together with Far Western.

Various methods of making estimates for unreported units were tested on the basis of correlation charts, although correlation coefficients were not computed for all methods. The one adopted for towns and cities gave a coefficient of .99 which seemed sufficiently high to warrant its adoption.

In spite of the inadequate data for the two categories named it is believed that the estimates are based on a broader amount of factual data than has been used in setting up earlier estimates.

Table I gives a summary of the number of jurisdictions upon which the estimates were based as well as the total number of governmental units in the various categories.

Most of the data were reported for the calendar year 1926 or the fiscal year 1926–27. Since the compilations in some cases were for the year 1927 it was considered necessary to reduce them to a 1926 basis. This was done by the use of the 1926 population figures as estimated by the census bureau. In the case of the federal government, however, the 1927 figures were accepted without change. Information on the basis desired for the year 1926 was not available.

DEFINITIONS

The investigation aimed to bring together the number of full and part-time employees, the total amount of expenditures chargeable to compensation and the total amount of operating budgets. Except in the case of the federal government the school

and educational data on personnel and budgets were dealt with separately.

Full-time employees were considered to be such as were regularly employed throughout the year on a full-time basis. *Part-time workers* were such as received some compensation from public employment, whether regularly or occasionally employed. This group included, for instance, seasonal laborers in the highway or street department, getting reports as to the number of "man-days" employed during the year covered. Although certain returns included this information, the total amount reported was insufficient to be of practical use. The number of part-time workers was therefore necessarily omitted.

Although an effort was made to secure information as to the compensation paid full-time and part-time

TABLE I

NUMBER OF GOVERNMENTAL UNITS SUPPLYING DATA ON WHICH STUDY WAS BASED AND TOTAL NUMBER OF UNITS BY POPULATION AND GEOGRAPHICAL CLASSIFICATION

Jurisdiction	Number of full-time employees	Total compensation full- and part-time employees	Operating budget	Actual number of governmental units in 1926
Federal..........................	1	1	1	1
State				
General Administration............	43	44	48	48
Education......................	37	42	48	48
County..........................	130	153	196	3,043
Metropolitan....................	28	42	48	60
New England..................	3	4	5	10
North Central.................	10	13	16	16
South Central.................	7	15	16	18
South and Far West............	8	11	11	16
Urban..........................	54	61	82	836
New England..................	4	6	6	40
North Central.................	9	9	12	181
South Central.................	20	23	33	288
South and Far West............	21	23	31	327
Rural..........................	48	50	66	2,147
New England..................	4	4	5	17
North Central.................	4	4	6	230
South Central.................	17	18	22	618
South and Far West............	23	24	33	1,282
County and City Consolidations......	8	8	8	8
Towns and Cities...................	302	312	302	16,691
500,000 and over.................	7	7	8	8
250,000–499,999.................	14	14	14	14
100,000–249,999.................	34	33	33	53
50,000– 99,999.................	22	21	23	90
30,000– 49,999.................	12	13	13	115
10,000– 29,999.................	39	42	40	575
5,000– 9,999.................	22	22	21	795
2,500– 4,999.................	34	37	36	1,451
New England.................	5	5	5	
North Central.................	3	6	4	
South Central.................	8	8	8	
South and Far West...........	18	18	19	
Under 2,500....................	118	123	114	13,590
New England.................	26	26	26	
North Central.................	10	17	9	
South Central.................	40	40	39	
South and Far West...........	42	40	40	

councilmen in the city council, supervisors in the county government as well as legislators in the state legislative bodies.

It was attempted to provide an accurate basis for dealing with the information on part-time workers by personnel this proved to be unfeasible, so that the salary and wage data are lumped for the two groups.

It should also be noted that fees received by public officials, *i.e.*, such as were not paid directly from public funds, were not included. Wages paid

to employees of private contractors carrying on public work were also eliminated. Finally, payments on account of pensions were not taken into account as a part of the compensation; they were included however in the operating budgets of all units except the federal government and excluded here because of the large amount ($690,014,692) most of which is due to pension payments to war veterans.

In securing *operating budgets* investigators were instructed to eliminate debt payments and capital expenditures of all sorts. This policy was adopted in the thought that more comparable data would be secured because the survey covered only a single year which in many cases would not be at all representative of the money regularly spent and the personnel regularly on the public payroll.

It is conceivable, for example, that some jurisdictions might have a major construction program under way in the year studied, while in others there might be an unusual lull in their construction program. Again some cities carry on their own building while others regularly let it out on a contract basis.

In view of the extensive use of subsidies and grants-in-aid and the evident necessity of avoiding duplications under the heading of operating budgets such subsidies were credited to the spending unit and subtracted from the budgets of the superior jurisdiction from which the funds were derived.

The data will now be presented under the following headings: I. Federal Government; II. States; III. Counties; IV. Towns and Cities; V. Public School Systems and Education; VI. Summary.

I. FEDERAL GOVERNMENT

The total expenditures of the federal government for 1927 amounted to $4,531,502,219.[1] In order to determine the amount of operating expenses, according to the definition adopted for the purpose of this investigation, it was necessary to deduct the following items:

Debt retirement and investments	$1,134,809,383
Interest and premiums on debt	794,130,822
Grants-in-aid, and surrender of income to states, etc	114,299,231
Pensions and allowances	690,014,692
Public works	65,624,339
Territories and dependencies	11,264,924
Miscellaneous	5,961,818
	$2,816,105,209

[1] Taken from the analysis of expenditures made by the Institute of Government Research and supplied by Dr. C. H. Wooddy of the President's Research Committee on Social Trends. Postal expenditures off-set by receipts ($687,-365,000) are added to aggregate of above analysis.

Subtracting this sum from the grand total of $4,531,502,219 leaves a balance of $1,715,397,010 as the amount of the operating expenses of the federal government for 1927.

According to the bureau of budget,[2] the compensation for personal services, including the postal services but excluding the District of Columbia, was $1,200,867,287. This is 70 per cent of the operating budget.

The total number of federal employees reported from the same source is shown in Table II.

TABLE II

Departmental and field service (executive, judicial and postal services)	559,138
Legislative establishment	3,810
Army	142,653
Navy and marine corps	131,092
Coast guard	11,311
Public health service and coast and geodetic survey, commissioned personnel	345
Total	848,349

[2] Communication of April 30, 1928.

The significant figures for the purpose of this study are the following:

Operating budget............ $1,715,397,010

Compensation............... $1,200,867,287
Percentage—compensation of operating budget........... 70%
Number of employees........ 848,349

II. STATES

The data from the states were divided into (a) general administration including all departments and institutions except the educational, and (b) education. The latter covered both the departments of education and state institutions classified under this heading. Apportionments to cities and counties were subtracted from the operating budgets.

Budgetary figures from all states were available except the following: Alabama, Delaware, Florida, Nebraska, North Dakota, Oklahoma and Washington. The *Financial Statistics of States for 1926* prepared by the bureau of census was utilized for these units. This exception has to do only with general administration as operating budgets for educational activities were secured from all states.

Personnel and compensation figures were lacking for general administration of five states and for education of eleven. These gaps in the information necessitated the working out of estimates on the basis of operating budgets.

A. *Methods of Estimating Compensation*

Correlation charts pairing compensation for all available units with population on the one hand and with operating budgets on the other indicated that this item was more closely related to the amount of the operating budget than to the total population of the states. The charts indicated further that the relationship was linear in both general administration and education. As the regression equation practically coincided with the equation

expressing the average ratio of compensation to operating budget, it was thought best to use the latter method. This seemed the more advisable since the regression equation would give an undue weight to the larger states.

General Administration.—Estimates of compensation were worked out for Nevada, New Hampshire, North Dakota and Oklahoma. Data for forty-four states showed an average ratio of total compensation to operating budget of .36 with a probable error of .01. This ratio was applied to the states named above in estimating total compensation.

Education. — Compensation data were available for all states except Alabama, Maine, Nevada, New Hampshire, North Dakota and Wyoming. Using the method described above it appeared that the ratio between operating budgets and compensation was .60 with a probable error of .016.

B. *Methods of Estimating Number of Full-time Employees*

General Administration. — Various correlation charts were set up and compared for the purpose of determining the soundest method of estimating the number of full-time employees for the units not reported. These consisted of Louisiana, Nevada, New Hampshire, North Dakota and Oklahoma. The method used above appeared to be the best. On the basis of the returns from 43 states it was found that the average ratio of total compensation to number of full-time employees was $1,518 with a probable error of $36. This was divided into

the total compensation for the above named states.

Education.—Applying the same method to the information on educa-

tion the average ratio for 35 states was found to be $1,770, with a probable error of $40. This was divided into the total compensation for the states

TABLE III

DATA ON NUMBER OF FULL-TIME EMPLOYEES, TOTAL COMPENSATION FOR FULL AND PART-TIME EMPLOYEES, AND OPERATING BUDGETS FOR STATES

| State | Year | General Administration | | | | | Education | | | | |
		(1) Number of full-time employees	(2) Total compensation full and part-time employees (in thousands)	(3) Operating budget (in thousands)	(4) Percentage compensation of operating budget	(5) Compensation divided by number employees	(1) Number of full-time employees	(2) Total compensation (in thousands)	(3) Operating budget (in thousands)	(4) Percentage compensation of operating budget	(5) Compensation divided by number employees
Alabama........	'27	1,001	$2,514	$8,062	31%	$2,510	*615*	*$1,076*	*$1,794*	*60%*	*$1,750*
Arizona........	'27	987	1,923	4,234	46	1,930	642	979	1,502	66	1,522
Arkansas......	'26	617	1,240	5,886	21	2,000	*701*	1,226	1,999	62	*1,750*
California......	'26	5,349	9,137	22,446	41	1,705	3,264	3,717	9,628	32	1,139
Colorado.......	'25	1,088	1,890	6,999	27	1,732	1,389	2,651	5,057	53	1,914
Connecticut.....	'26	2,677	3,660	17,731	21	1,373	752	1,515	4,616	33	2,008
Delaware.......	'26	559	684	1,655	44	1,221	*188*	*242*	*332*	*73*	*1,750*
Florida........	a'28	1,624	2,774	8,137	34	1,710	874	1,250	2,494	50	1,431
Georgia........	'26	3,401	3,495	11,528	30	1,028	1,214	1,463	1,666	88	1,209
Idaho.........	'26	500	803	3,465	32	1,605	724	1,400	2,514	56	1,942
Illinois........	'26	8,893	12,735	25,011	51	1,433	2,099	5,127	6,317	81	2,440
Indiana........	'26	3,384	5,351	10,471	51	1,580	2,463	3,570	5,044	71	1,450
Iowa..........	'26	2,613	3,577	11,481	31	1,372	2,406	5,861	8,107	72	2,430
Kansas........	'26	1,756	3,130	13,314	23	1,775	1,938	3,664	6,146	60	1,888
Kentucky......	'27	1,700	3,750	9,500	40	2,210	1,850	2,380	3,285	73	1,286
Louisiana......	'25	*3,315*	5,032	14,478	35	*1,518*	*777*	1,359	3,032	45	*1,750*
Maine.........	'26	2,391	2,858	9,570	30	1,197	425	*598*	997	*60*	*1,750*
Maryland......	'26	1,721	2,366	14,406	16	1,379	765	1,583	2,168	73	2,065
Massachusetts..	'25	10,668	14,516	36,361	40	1,365	1,891	2,536	6,837	37	1,280
Michigan.......	'26	6,336	5,393	12,506	43	850	5,227	7,873	9,282	85	1,505
Minnesota......	'27	6,671	8,841	23,983	37	1,325	3,144	5,240	7,524	70	1,665
Mississippi.....	'26	2,732	2,623	11,106	24	968	523	982	1,212	81	1,876
Missouri.......	'26	2,320	2,123	10,664	20	915	1,434	2,068	2,943	70	1,450
Montana.......	'26	1,700	1,829	22,917	63	1,078	410	922	1,513	61	2,250
Nebraska.......	'27	1,295	2,255	6,511	35	1,875	1,014	2,252	4,464	50	2,225
Nevada........	'25 & '26	277	*420*	1,176	*36*	*1,518*	*150*	*263*	429	*60*	*1,750*
New Hampshire.	'26	*1,099*	*1,668*	4,633	*36*	*1,518*	*485*	*848*	1,414	*60*	*1,750*
New Jersey.....	'26	7,961	11,711	21,282	55	1,470	*739*	1,293	2,627	49	*1,750*
New Mexico....	'26	460	774	2,373	33	1,681	*405*	709	1,431	49	*1,750*
New York......	a'26	19,554	28,672	77,005	37	1,470	2,686	5,324	10,975	49	1,978
North Carolina..	'27	2,853	3,900	9,379	42	1,365	2,361	3,460	5,520	63	1,467
North Dakota...	'26	*1,065*	*1,616*	4,488	*36*	*1,518*	*721*	*1,261*	2,101	*60*	*1,750*
Ohio...........	'27	6,088	7,811	24,029	33	1,285	2,520	4,794	8,203	59	1,900
Oklahoma......	'28	*2,152*	*3,366*	9,073	*36*	*1,518*	*1,756*	3,073	4,897	73	*1,750*
Oregon........	'26	2,673	2,743	8,157	34	1,028	978	2,022	2,557	80	2,070
Pennsylvania...	'26	11,266	16,797	42,351	40	1,491	1,646	3,347	6,903	48	2,030
Rhode Island....	'26	1,470	2,530	6,793	37	1,720	347	509	1,201	43	1,465
South Carolina..	'27	1,410	2,103	4,732	45	1,489	712	1,303	5,605	23	1,830
South Dakota...	'27	1,172	1,827	8,128	23	1,565	923	1,699	3,072	55	1,850
Tennessee......	'27	2,776	5,734	9,473	60	2,065	915	1,299	1,818	71	*1,750*
Texas.........	a'28	3,307	4,487	10,703	42	1,351	2,468	5,069	7,664	66	*2,052*
Utah..........	'26	605	916	2,005	46	1,515	473	845	1,501	57	1,790
Vermont.......	'26	1,172	1,604	4,010	40	1,420	59	98	407	24	1,661
Virginia........	'27	3,551	4,666	13,596	34	1,315	3,721	4,798	6,179	78	1,290
Washington....	'26	1,788	2,283	7,522	30	1,274	1,469	2,542	4,101	62	1,730
West Virginia...	'28	1,573	2,919	9,603	30	1,860	1,607	2,668	4,550	59	1,660
Wisconsin......	'27	3,856	5,581	20,963	27	1,445	4,355	6,451	9,551	68	1,479
Wyoming......	'26	330	769	2,150	36	2,323	*316*	*553*	921		
Average......					36%[b]	$1,518[c]				60%[d]	$1,750[e]

Estimated figures are italicized in this table.
[a] Appropriations.
[b] P.E. =1.0.
[c] " =$36.
[d] " =1.6.
[e] " =$40.

TABLE IV

FINAL ESTIMATES OF NUMBER OF FULL-TIME EMPLOYEES AND TOTAL COMPENSATION FOR FULL
AND PART-TIME EMPLOYEES AND OPERATING BUDGET—1926

State	General Administration			Education		
	Number of full-time employees	Total compensation full and part-time employees (in thousands)	Operating budget (in thousands)	Number of full-time employees	Total compensation full and part-time employees (in thousands)	Operating budget (in thousands)
Alabama............	992	$2,491	$7,989	610	$1,066	$1,779
Arizona............	957	1,864	4,103	622	949	1,455
Arkansas...........	617	1,240	5,886	701	1,226	1,999
California..........	5,349	9,137	22,446	3,264	3,717	9,628
Colorado...........	1,108	1,925	7,125	1,389	2,651	5,057
Connecticut........	2,677	3,660	17,731	752	1,515	4,616
Delaware..........	559	684	1,565	138	242	332
Florida............	1,516	2,589	7,592	816	1,167	2,327
Georgia............	3,401	3,495	11,528	1,214	1,463	1,666
Idaho.............	500	803	2,465	724	1,405	2,514
Illinois............	8,893	12,735	25,011	2,099	5,127	6,317
Indiana............	3,384	5,351	10,471	2,463	3,570	5,044
Iowa..............	2,613	3,577	11,481	2,406	5,861	8,106
Kansas............	1,756	3,130	13,314	1,938	3,664	6,146
Kentucky..........	1,691	3,729	9,443	1,840	2,367	3,265
Louisiana..........	3,348	5,082	14,623	784	1,373	3,062
Maine.............	2,391	2,858	9,570	425	598	997
Maryland..........	1,721	2,366	14,406	765	1,583	2,168
Massachusetts......	10,804	14,702	36,834	2,006	2,569	6,926
Michigan...........	6,336	5,393	12,506	5,227	7,873	9,282
Minnesota..........	6,584	8,725	23,671	3,103	5,171	7,430
Mississippi.........	2,732	2,623	11,106	523	982	1,212
Missouri...........	2,320	2,123	10,664	1,434	2,068	2,943
Montana...........	1,700	1,829	2,917	410	922	1,513
Nebraska..........	1,274	1,237	6,407	1,006	2,234	4,393
Nevada............	277	420	1,176	150	263	439
New Hampshire......	10,099	1,668	4,633	485	848	1,414
New Jersey.........	7,961	11,711	21,282	739	1,293	2,627
New Mexico.........	460	774	2,373	405	709	1,431
New York..........	19,554	28,672	77,005	2,686	5,324	10,975
North Carolina......	2,815	3,848	9,257	2,329	3,365	5,448
North Dakota.......	1,065	1,616	4,488	721	1,261	2,101
Ohio..............	5,988	7,682	23,645	2,479	4,715	8,072
Oklahoma..........	2,077	3,153	8,755	1,682	2,967	4,726
Oregon............	2,673	2,743	8,157	978	2,022	2,557
Pennsylvania.......	11,266	16,797	42,351	1,646	3,347	6,903
Rhode Island.......	1,470	2,530	6,793	347	509	1,201
South Carolina......	1,395	2,081	4,685	705	1,290	5,549
South Dakota.......	1,160	1,808	8,047	914	1,682	3,041
Tennessee..........	2,757	5,695	9,407	909	1,290	1,805
Texas.............	3,253	4,413	10,532	2,428	4,985	7,541
Utah..............	605	916	3,005	473	845	1,501
Vermont...........	1,162	1,604	4,009	59	98	407
Virginia............	3,513	4,617	13,446	3,682	4,747	6,111
Washington.........	1,788	2,283	7,522	1,469	2,542	4,101
West Virginia.......	1,523	2,826	9,296	1,556	2,583	4,404
Wisconsin..........	3,812	5,518	20,690	4,306	6,378	9,406
Wyoming..........	330	769	2,150	316	553	921
Total............	153,226	$218,492	$602,558	68,123	$114,979	$192,898

for which the data were lacking, viz., Alabama, Arkansas, Delaware, Louisiana, Nevada, New Hampshire, New Jersey, New Mexico, North Dakota, Oklahoma and Wyoming.

Table III brings together the data secured through the investigation as well as the estimates worked out by the methods just described. These figures are reduced to a 1926 basis by the use of population figures in such cases as were reported for some other year. Table IV gives the final estimates of the number of full-time

employees and of the total compensation (including both full-time and part-time) for general administration and education respectively.

Summary.—The significant totals in the above tables are the following:

	General Administration	Education
Operating budgets......	$602,558,000	$192,898,000
Compensation..........	218,492,000	114,979,000
Percentage—compensation of operating budgets.................	36%	60%
Number of full-time employees..............	153,226	68,123

III. COUNTIES

The following table, No. V, shows the number of counties on which the study was based together with the total number of counties. They are distributed under four main divisions and further subdivided on the basis of geographical area.

The distribution into county-city consolidations,[1] metropolitan, urban and rural groups was made with reference to the population of cities included within the county area. Apart from the seven so-called county-city consolidations which are treated in the section on cities and towns, the counties embracing one or more cities of a population of 100,000 or more were considered metropolitan; those containing one or more cities, towns, villages or boroughs of 5,000 or more population were classified as urban while the rural group consisted of the balance. This grouping seemed called for because of the belief that the scope

and significance of county functions are affected by the presence of a larger or smaller urban unit within the boundaries of the county, the tendency being for the functions of the county to vary with respect to the aggregates of population in incorporated political units within its limits. As it was necessary to estimate personnel and other data for a considerable number of counties, averages set up for counties in a more or less homogeneous group would appear to be reasonably valid for those for which information was not available.

Similar reasoning prompted further subdivisions on a geographical basis, the guiding consideration here being that the character of county functions varies in different parts of the country. The classification adopted by Kirk H. Porter in his study of county government in the United States was adopted for this purpose.[2] Mr. Porter divides the county governments into four large groups:

(1) New England, where the town is the important local unit while the county is relatively unimportant. This appears in the rural districts in which the town is the governing body.

[1] Eight cities including Washington, D. C., are listed as city-county consolidations. Seven of these comprise most if not the whole of the county area of eleven counties. Although they are not all consolidations in the strict sense of the term they are classified separately because the data were combined for the city and county jurisdictions.

[2] Porter, Kirk H., *County and Township Government in the United States.*

TABLE V

NUMBER OF COUNTIES ON WHICH STUDY WAS BASED AND TOTAL NUMBER OF COUNTIES IN
EACH CLASSIFICATION

Division	Number of counties on which study was based		Number of states represented	Total number of counties
County-city consolidations [1]		11 (7 cities)		11 [1]
Metropolitan		28	23	60
New England	3		2	10
North Central	10		6	16
South Central	7		7	18
South and Far West	8		8	16
Urban		54	41	836
New England	4		4	40
North Central	9		6	181
South Central	20		11	288
South and Far West	21		20	327
Rural		48	37	2,147
New England	4		4	17
North Central	4		5	230
South Central	17		10	618
South and Far West	23		18	1,282
Grand Total		141 [1]	44	3,054 [1]

[1] In the following computations the county-city consolidations are omitted. They are treated under the section on cities.

The following six states are included in this group: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut.

(2) South and Far West. In these sections the county appears to be the dominating body. It controls the unincorporated rural districts. Township jurisdictions are not provided for at all. Twenty-five states are found in this group: Delaware, Maryland, West Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Kentucky, Mississippi, Louisiana, Texas, New Mexico, Arizona, Colorado, Wyoming, Utah, Nevada, Idaho, Montana, Washington, Oregon and California.

(3) North Central. Here are classified those states where a county-township combination exists with the emphasis on the latter. The group comprises: New York, New Jersey, Michigan, Illinois, Wisconsin and Nebraska.

(4) South Central. Here too is found the county-township combination with the county as the predominating jurisdiction. This includes the following eleven states: Pennsylvania, Ohio, Indiana, Mississippi, Iowa, Missouri, Arkansas, North Dakota, South Dakota, Kansas and Oklahoma.

An examination of Table V shows that data were secured from at least three and at most twenty-three under the various subdivisions. The inadequacy of this basis of estimating budgetary and personnel data for the balance of the various groups is obvious. In defense of the procedure it can only be urged that county budgets and salary expenditures are usually not published, necessitating careful field investigations; that there is a considerable amount of uniformity in county

TABLE VI

AVERAGE PER CAPITA COMPENSATION, POPULATION AND TOTAL ESTIMATED COMPENSATION FOR
3,043 COUNTIES BY POPULATION AND PORTER CLASSIFICATION, 1926 [1]

	Per capita compensation	Total population (in thousands)	Total compensation for full and part-time employees (in thousands) [1]
New England.................	$ .89	8,092	$7,201
Metropolitan.................	.89	5,209	4,636
Urban.......................	.89	2,432	2,164
Rural.......................	.89	451	401
North Central................	2.56	24,929	63,984
Metropolitan.................	2.87	10,402	29,854
Urban.......................	2.15	10,504	22,584
Rural.......................	2.87	4,023	11,546
South Central................	2.53	32,468	82,294
Metropolitan.................	2.87	7,194	20,647
Urban.......................	2.15	15,125	32,519
Rural.......................	2.87	10,149	29,128
South and Far West...........	2.62	40,286	105,473
Metropolitan.................	2.87	5,488	15,751
Urban.......................	2.15	14,094	30,302
Rural.......................	2.87	20,704	59,420
Total.......................	$2.46	105,775	$258,952
Total Metropolitan...........	2.50	28,293	70,888
Total Urban.................	2.08	42,155	87,569
Total Rural.................	2.85	35,327	100,495
Total.......................	$2.46	105,775	$258,952

[1] City-county consolidations omitted.

functions within a given group; and, finally, that these data constitute a broader base for purposes of making estimates than has been used in setting up earlier compilations.

A. *Methods of Estimating Total Compensation*

The returns included operating budgets, as previously defined, compensation and number of full-time workers for 130 county units. In addition operating budgets or total compensation or both were reported for 66 counties. These data were also used.

On the whole, analysis of the figures showed that there was a great variability in the compensation paid as between the groups although there was a fair degree of uniformity within any single group.

In seeking a sound basis for estimating the figures for the counties not covered correlation charts pairing population [1] and compensation were set up and examined. These showed a close relationship between total compensation and population in metropolitan counties, a fairly satisfactory one in urban counties and scarcely any relationship in the rural group. When combined on a single chart it was evident that the relationship was not linear, but more or less in the form of a second-degree parabola with positive

[1] The population estimates prepared for the year 1926 by the U. S. Bureau of Census were used in the compilations.

coefficients. Some linear correlations were computed, dividing the data into its geographical and population classifications. The results, however, were not sufficiently uniform to justify the application of the estimating regression equation either individually or as a whole. A correlation coefficient based on a parabolic or logarithmic curve would undoubtedly have fitted the data much better, but the great variability and comparatively small number of cases did not seem to justify such an involved statistical procedure. It was, therefore, deemed best to apply the average per capita compensation for the different classifications to the total population residing within the counties in each class.

The average per capita compensation was computed for the three population classifications and the four Porter divisions. The probable error of the means and the probable error of the differences of the means were computed. This showed a significant difference between the average for New England and the average for the rest of the country. The three classifications within New England, however, showed no significant differences. In the remaining parts of the country, there was a significant difference between urban and the other two classifications. Table VI gives the average ratio of compensation to population for the various classifications, the total population residing within these classifications and the total estimated compensation.

A scrutiny of this table shows that the ratio for the New England counties is out of line under each category. This is due to the fact that the county plays a minor rôle in local government in this section of the country, so that one would hardly expect very high expenditures.

On the other hand, in view of the greater importance of the county as

compared to minor jurisdictions in the South and Far West, one would expect a comparatively higher ratio for the counties in these regions. The fact that the ratio is not higher for such groups may be ascribed to the facts: (1) that in general public agencies do not undertake so many functions as in other parts of the country; and (2) that salary scales are likely to be lower than in more thickly populated regions.

That the average ratio for the rural and metropolitan counties are practically the same appears a bit surprising at first glance. But this may be due to two factors or counter tendencies:

1. If the area absorbed by incorporated units is restricted, that subject to the control of county officials will be larger and the functions more important. As will be recalled, the rural classification was set up with reference to the absence of incorporated towns, villages and cities of 5,000 or more.

2. On the other hand, in case a considerable part of the county is occupied by one or more metropolitan cities with its high standard of living [1]—if this phrase may be so applied—it is likely to influence both the quality and variety of the services demanded by the public of its county government, even though these demands may result in higher governmental costs.

These factors go to explain the rela-

[1] Comparative statistics go to prove that there is a definite tendency for governmental costs to rise in relation to the concentration of population, *i.e.*, the larger the city the higher the per capita expenditures for public purposes. Better standards and more services seem to be the corollary to increasing population within the city limits. It is believed that this tendency is reflected in the character of the county governments where a major part of the county area is occupied by one or more large metropolitan cities. See Davenport, Donald H., *Report to Governor Alfred E. Smith and to the Legislature of the State of New York on Costs of Government, Land Value and Population.*

tively higher per capita averages for the rural and metropolitan counties.

B. *Methods of Estimating Total Number of Full-time Employees*

In computing the number of full-time employees a ratio was worked out between the total compensation and the number of employees for the several classifications. When the averages were tested for probable error of the differences, none of them were found to be significant, except possibly the difference between the total metropolitan and the total urban groups. However, as the differences between the Porter divisions and between the population divisions were in all cases greater than the probable error, it was thought

best to use the individual averages rather than to lump them together. The results of this computation are compiled in Table VII.

The total compensation was then divided by the average ratio (column a) to get the total estimated number of full-time employees for each division (column b).

C. *Per Cent of Operating Budget Chargeable to Personal Service*

The ratio of total compensation to operating budget was computed and averaged for the various Porter classifications and population divisions. The results are given in Table VIII, column c. It is difficult to interpret the differences as the small number of

TABLE VII

RATIO OF COMPENSATION TO NUMBER OF FULL-TIME EMPLOYEES, TOTAL COMPENSATION OF FULL
AND PART-TIME EMPLOYEES AND TOTAL ESTIMATED NUMBER OF FULL-TIME EMPLOYEES
FOR COUNTIES—BY POPULATION DIVISION AND PORTER CLASSIFICATION, 1926

	(a) Ratio of compensation to number of full-time employees	(b) Total compensation of full and part-time employees (in thousands)	(c) Total number of full-time employees
New England.............	1,900	$7,201	3,741
Metropolitan............	2,197	4,636	2,110
Urban.................	1,554	2,164	1,392
Rural.................	1,680	401	239
North Central............	1,860	63,984	34,282
Metropolitan............	1,977	29,854	15,101
Urban.................	1,619	22,584	13,949
Rural.................	2,207	11,546	5,232
South Central............	1,900	82,294	43,136
Metropolitan............	2,208	20,647	9,351
Urban.................	1,892	32,519	17,188
Rural.................	1,755	29,128	16,597
South and Far West.......	1,720	105,473	61,256
Metropolitan............	2,070	15,751	7,609
Urban.................	1,419	30,302	21,354
Rural.................	1,840	59,420	32,293
Total..................	1,820	$258,952	142,415
Total Metropolitan........	2,070	70,888	34,171
Total Urban..............	1,630	87,569	53,883
Total Rural..............	1,860	100,495	54,361
Total..................	1,820	$258,952	142,415

cases and wide individual variations do not justify a statement as to the significance of these differences. However, the differences are similar to those found in the averages of the per capita compensation, *i.e.*, New England as a whole is lower than the rest of the country and the urban classification is lower than the metropolitan and rural classification. When the operating budget is reduced to a per

operating budget for the North Central, South Central and South and Far West divisions are practically identical.

In column d, Table VIII, are found figures showing the per capita operating budget, and in column e the per capita compensation in thousands of dollars. These are included to facilitate a comparison between the per capita operating budget and the per capita compensation.

TABLE VIII

OPERATING BUDGET AND PER CENT OF COMPENSATION TO OPERATING BUDGET FOR 3,043 COUNTIES

Classification	(a) Total compensation for full- and part-time employees (in thousands)	(b) Operating budget (in thousands)	(c) Compensation divided by operating budget (in per cent)	(d) Per capita operating budget	(e) Per capita compensation
New England........	$7,201	$22,492	32%	$2.78	$ .89
Metropolitan.......	4,636	15,453	30	2.96	.89
Urban.............	2,164	6,011	36	2.48	.89
Rural.............	401	1,028	39	2.28	.89
North Central........	63,984	147,334	43	5.91	2.56
Metropolitan.......	29,854	74,635	40	7.15	2.87
Urban.............	22,584	53,771	42	5.10	2.15
Rural.............	11,546	18,928	61	4.70	2.87
South Central........	82,294	192,636	43	5.93	2.53
Metropolitan.......	20,647	48,016	43	6.70	2.87
Urban.............	32,519	81,298	40	5.35	2.15
Rural.............	29,128	63,322	46	6.20	2.87
South and Far West...	105,473	238,848	44	5.93	2.62
Metropolitan.......	15,751	30,884	51	5.65	2.87
Urban.............	30,302	84,172	36	6.00	2.15
Rural.............	59,420	123,792	48	5.00	2.87
Grand Total.........	$258,952	$601,310	43%	$5.68	$2.46
Total Metropolitan....	70,888	168,988	42	5.97	2.50
Total Urban.........	87,569	225,252	39	5.34	2.08
Total Rural.........	100,495	207,070	49	5.86	2.85
Grand Total	$258,952	$601,310	43%	$5.68	$2.46

capita basis, we again find the same differences, New England having a per capita operating budget of less than half that of the rest of the country and the urban counties appreciably lower than the metropolitan and rural. It will be noticed that the per capita

Summary.—The significant totals in the above tables are as follows:

Operating budgets.............	$601,310,000
Compensation................	258,952,000
Percentage—compensation of operating budgets.............	43%
Number of full-time employees..	142,415

IV. INCORPORATED TOWNS AND CITIES

The number of incorporated towns and cities in 1926 was estimated at 16,691. This was arrived at by accepting the estimates of the census bureau for towns and cities over 10,000 and using our own estimates for towns under

for this series there was no need of working out estimates.

In Table IX will be found groupings of the towns and cities together with the number of cases on which the estimates were based.

TABLE IX

NUMBER OF INCORPORATED TOWNS AND CITIES ON WHICH STUDY WAS BASED BY POPULATION CLASSIFICATIONS

Classification	Number of cases on which study was based		Number of states represented		Total number in United States in 1926
County-city consolidations [1]	8		7		8
500,000 or over.	7		7		8
250,000–499,999.	14		11		14
100,000–249,999.	34		19		53
50,000– 99,999.	22		13		90
30,000– 49,999.	12		12		115
10,000– 29,999.	39		29		575
5,000– 9,999.	22		17		795
2,500– 4,999.	34		22		1,451
New England.		5		4	
North Central.		3		3	
South Central.		8		4	
South and Far West.		18		11	
Under 2,500.	118		30		13,590
New England.		26		4	
North Central.		10		4	
South Central.		40		10	
South and Far West.		42		12	
Total.	310		48		16,699

[1] The District of Columbia was included but not counted as a state.

10,000. It includes all towns in Massachusetts, Rhode Island and New Hampshire with a population of 2,500 or more whether incorporated or not.

A special group is classed under the title, county-city consolidations. This consists of those large cities which absorb a large part if not all of the counties in which they are located and for which the data were compiled in a consolidated form. For obvious reasons Washington, D. C., is included in this group. The other so-called city-county consolidations are: Baltimore, San Francisco, St. Louis, Denver, Philadelphia, New Orleans and New York. As actual figures were secured

A. *Methods of Estimating Number of Towns in Population Groups*

As the data indicated a very close relationship of a non-linear character between population and compensation, it was necessary to determine the number of towns and their population for 1926. The census bureau had published estimates for towns and cities of 10,000 and more population for this year, but not for smaller units. Using the decennial figures of 1920 as a basis, all places reported in 1920 as having less than 10,000 were classified into four groups:

(a) The number below 10,000 increased to over 10,000 in 1926.

(b) The number between 5,000 and 10,000 in 1926.

(c) The number between 2,500 and 5,000 in 1926.

(d) The number with less than 2,500 in 1926.

In order to determine the probable changes in these groups from 1920 to 1926 the method of logarithmic exterpolation was adopted, using the 1910 and 1920 figures as the basis. The results for 1926 are summarized in the following table:

fication. The estimating equation then became $y = 4.077x$ to the 1.2284 power and the correlation coefficient of the logarithms $= .999$, *i.e*, the coefficient expresses the correlation of the logarithm of the means and not the correlation of the individual items which would, of course, be much smaller. However, the high correlation of the means should give a highly accurate estimate of the total compensation paid by incorporated towns and cities in the United States. Table XI gives

TABLE X

Group	Number in Group	Population	Average population
Below 2,500...............	13,590	8,969,000	700
2,500–5,000...............	1,451	4,594,000	3,500
5,000–10,000.............	795	4,998,000	6,900

B. *Methods of Estimating Total Compensation*

Again using the reported data as a basis, comparisons were made to determine the best method of utilizing the available material for applying averages to the cities and towns from which no figures had been secured. After some preliminary charting of population in relation to compensation, it was evident that the relationship was of a hyperbolic nature of the form $y = ax^b$ where $y =$ compensation and $x =$ population. Interpreting this on a natural scale it simply means that the larger the city, the larger the per capita compensation. Casting the data into the four Porter classifications did not reveal enough difference to justify segregation.

As a correlation of the form $y = ax^b$ with 146 items would take a longer time than was at our disposal, it was thought better to divide the data into class intervals and fit the equation to the means of the x's and y's weighted by the number of items in that classi-

the estimates of total compensation of incorporated towns and cities by population classification based on this estimating equation.

C. *Methods of Estimating the Number of Full-time Employees*

The number of full-time employees seemed more closely related to the size of the total compensation than to any other known factor. Consequently, the ratio of the number of full-time employees to total compensation was computed and averaged by different population classifications. *It should be again pointed out that this ratio is not the average salary per full-time employee, as total compensation includes payments to both part-time and full-time workers.*

The average ratio for the various population classifications was divided into the total estimated compensation to get the estimated number of full-time employees for that classification.

The results of these computations

TABLE XI

NUMBER AND POPULATION OF INCORPORATED TOWNS AND CITIES IN THE UNITED STATES AND TOTAL
ESTIMATED COMPENSATION, 1926

Population divisions (in thousands)	Total number	Total population (in thousands)	Total compensation for full- and part-time employees (in thousands)
Below 2.5	13,590	9,500	$35,720
2.5–5	1,451	5,100	27,642
5–10	795	5,505	34,902
10–15	303	3,787	27,494
15–20	134	2,170	18,385
20–25	86	1,935	16,065
25–30	52	1,430	12,428
30–35	39	1,267	11,447
35–40	27	1,012	9,447
40–45	25	1,060	10,200
45–50	24	1,140	11,227
50–60	29	1,595	16,243
60–70	21	1,365	14,440
70–80	21	1,575	17,216
80–90	6	510	5,736
90–100	13	1,235	14,248
100–110	9	945	11,151
110–120	8	920	11,088
120–130	3	375	4,605
130–140	8	1,080	13,504
140–150	6	870	11,052
150–160	2	310	4,000
160–170	3	495	6,477
170–180	3	525	6,963
180–190	3	555	7,455
190–200	1	195	2,651
200–210	3	615	8,457
210–220	2	430	5,978
240–250	2	490	7,018
	16,669	47,993	$383,239
Actual Data			
250–500	14	5,025	67,614
Over 500	8	8,465	163,801
County-city consolidations	8	11,370	244,163
Total	16,699	72,853[a]	$858,817

[a] As the total population in 1926 was 117,136,000, the balance of 44,281,000 were living in unincorporated territory.

are presented in the following table, No. XII.

Although the differences in the averages (Table XII, column b) are not significant when measured by their probable error, they may be considered significant in the light of a priori knowledge. In other words, the various population classifications are distinct groups and should be treated separately.

The ratio of compensation to operating budget was computed and averaged for each population division, the results are given in Table XIII, column c. It immediately strikes the eye that the larger the town the larger the percentage of compensation to operating budget with the exception of the figure for the group of 500,000 and over. For the country as a whole the average is 56 per cent.

TABLE XII

TOTAL COMPENSATION FOR FULL AND PART-TIME EMPLOYEES AND ESTIMATED NUMBER OF FULL-TIME EMPLOYEES IN INCORPORATED TOWNS AND CITIES, 1926

Population group	(a) Total estimated compensation of full- and part-time employees	(b) Average of compensation to number of full-time employees	(c) Estimated number of full-time employees
0–4,999..................	$63,362,000	$1,580	40,103
5,000–49,999.............	151,595,000	1,520	99,734
50,000–99,999............	67,883,000	1,550	43,797
100,000–249,999..........	100,399,000	1,730	58,035
250,000–499,999ᵃ	67,614,000	1,710	41,684
500,000 and over...........	163,801,000	1,500	113,785
County-city consolidations..	244,163,000	1,770	137,759
Total...................	$858,817,000	$1,610	534,897

ᵃ Data for cities over 250,000 and for county-city consolidations are taken from questionnaires except for Buffalo which is included in the over 500,000 classification.

The per capita operating budget, the per capita compensation and the per cent of compensation to operating budget are brought together for purposes of comparison. All of the three ratios tend to bear out the above observation that as the city increases in size costs mount on a per capita basis.

Summary.—The significant totals in the above tables are as follows:

Operating budgets............	$1,534,785,000
Compensation...............	$858,817,000
Percentage—compensation of operating budgets............	56%
Full-time employees..........	534,897

TABLE XIII

OPERATING BUDGET AND PER CENT OF COMPENSATION TO OPERATING BUDGET AND PER CAPITA FIGURES FOR TOWNS AND CITIES BY POPULATION GROUPS

Population groups	(a) Total compensation for full- and part-time employees (in thousands)	(b) Operating budget (in thousands)	(c) Compensation divided by operating budget (per cent)	(d) Per capita operating budget	(e) Per capita compensation
0–4,999.................	$63,362	$144,005	44%	$9.86	$4.35
5,000–49,999.............	151,595	315,823	48	16.36	7.85
50,000–99,999............	67,883	121,220	56	19.30	10.81
100,000–249,999..........	100,399	164,589	61	21.09	12.86
250,000–499,999..........	67,614	104,022	65	20.70	13.46
500,000 and over..........	163,801	307,873	53	36.37	19.35
County-city consolidations.	244,163	377,253	65	33.18	21.47
Total...................	$858,817	$1,534,785	56%	$21.07	$11.79

V. PUBLIC SCHOOL SYSTEM

On account of the character of the reports on the public school systems made by the bureau of education and the research division of the National Education Association the county school districts and city systems are treated as a unit.[1]

From Bulletin No. 39 (1927) of the U. S. Office of Education (pp. 17–18), may be secured for the year 1925 and 1926 the following data: (1) the number of teachers, principals, supervisors and administrators in the public school system; (2) salaries and expenses of supervisors and principals and salaries of teachers (p. 32); (3) wages of janitors, engineers and their helpers for 37 states (p. 32); and (4) operating budgets (p. 34).

In order to round out the above information it is necessary to estimate:

1. Salaries of city and county administrators and assistants.
2. "Expenses" of supervisors and principals in order to deduct from the item "cost of instruction, salary" (p. 32).
3. Number and salaries of clerks, stenographers, nurses, attendance officers, janitors and engineers.

1. Salaries of Administrative Officers. The number of administrative officers is distributed in Bulletin No. 39 of the Office of Education as follows:

City superintendents................   5,719
Other administrative officers (in cities)   4,294
County superintendents.............   3,480
                                        _____
                                        13,493

The salaries were estimated on the basis of the 1927 survey made by the

[1] The data on personnel and expenditures for educational purposes in the departments and institutions of the states are included in Section II above.

National Education Association (Research Bulletin, Vol. V, No. 2). It covers returns from 1,435 city reports classified according to the population of the cities represented; from other administrative officers from the same number of cities;[2] and from 3,427 county superintendents.[3] In all cases only median salaries were reported. These medians were applied to the whole group of cities and counties in the various population classifications from small incorporated villages to the largest cities. In the case of the returns on city officials the estimates were derived by the use of population weights. The following table gives the results of the computations:

	Numbers	Total Estimated Salaries
City superintendents....	5,719	$40,000,000
Other administrative officials.............	4,294	11,600,000
County superintendents.	3,480	7,700,000
	13,493	$59,300,000

[2] For tables see Research Bulletin, Vol. V, No. 2, pp. 78, 79, 86, 88, 93, 94, 99, 100, 106, 107.

[3] *Journal of the National Education Association*, 20: 186, May, 1931. Salaries and Certain Provisions Relating to Rural School Superintendents, 1930–31. It will be noted that the salary data from the Research Bulletin are for the year 1926–27 and those covering county superintendents for 1930–31, whereas the report published by the Office of Education is for 1925–26. The computations must, therefore, be accepted with certain reservations. It is not probable that there were marked changes in numbers or salary scales for 1925–26 and 1926–27. There were doubtless increases in the salaries of rural school superintendents from 1925–26 to 1930–31. However, such increases would affect the salaries of only 3,427 superintendents, a relatively small number of the total included in the estimates. In defense of this procedure it can only be said that 1925–26 data were not available.

2. The salaries of supervisors and principals were combined with "expenses" in Bulletin No. 39 (p. 32) of the Office of Education. As no information was given that would enable one to segregate expenses from the totals reported, it was found necessary to include the total figures. This was done in the belief that "expenses" would constitute but a relatively minor part of the whole amount.

3. The number and salaries of clerks, stenographers, nurses, attend-ance officers and janitors as reported for 1,435 city systems in the Research Bulletin (Vol. V, No. 2) served as the basis for working out estimates for incorporated towns and cities not included in this survey. Ratios were computed for each of the above classes of employees with respect to the total number of "other employees" in each population division. Again popula-tion weights were used for all cities in the several classes and the median salary reported for each class.[2]

CONCLUSION

By the use of this method it is esti-mated that there are 57,400 full-time "other employees" receiving a total of $74,110,000 in the city school systems. Of this amount $49,100,000 is charge-able to janitor services, leaving a balance of $25,000,000 for the stenog-raphers, clerks, nurses and attendance officers. But the wage payments to janitors and engineers for 37 states as reported in Bulletin No. 39 aggregate $53,864,272. By applying the ratio between such payments and the total cost of operation, i.e. (55 per cent) to the cost of operation for the eleven states not included it appears that the total to be charged to the item of janitor service for both urban and rural schools amounts to $100,659,000. This figure is, therefore, substituted for $49,100,000. Its size is to be explained as due to the large amount of part-time service in rural schools. Since consolidated schools are likely to have full-time janitors, the number of other employees noted above was in-creased by 16,291 (the number of consolidated schools), giving an aggre-gate of 73,691 other employees for all schools and a payroll of $125,659,000.[1]

The information derived from the bulletin of the U. S. Office of Education and the estimates explained above are combined in Table XIV.

The figures significant for the pur-pose of this investigation are as follows:

Operating budgets..........	$1,537,874,000
Compensation.............	1,246,542,000
Percentage—compensation of operating budgets........	81%
Full-time employees........	936,686

PART-TIME EMPLOYEES

Before pooling the data from the preceding summaries reference should be made to the serious lack of informa-tion concerning part-time workers. Because of the well-known size and importance of this group, particularly in connection with seasonal work, a rough estimate has been made on the

[1] No reports are available as to the number or salaries of "other employees" in rural schools except for janitorial service, as estimated above. This gap in our information should be recognized, although it is probably not of any considerable consequence because many of the duties of such employees are likely to be carried on by part-time workers, the teaching staff or not at all.

[2] The median salary as reported by the source was scaled down to even hundreds (egs. 1,560 taken as 1,500) on the ground that the median was probably higher than the arithmetic average because of a slightly skewed distribution.

TABLE XIV

OPERATING BUDGETS, TOTAL COMPENSATION AND NUMBER OF FULL-TIME EMPLOYEES IN PUBLIC SCHOOL SYSTEMS

	Number of full-time Employees	Total compensation (in thousands)	Total operating budget[a] (in thousands)	Percentage compensation of operating budget
General control.................	13,493	$59,300	$68,426	
Instruction....................	849,502[b]	1,061,583	1,127,009	
Operation of school plant (janitors, engineers, etc.)	55,091	100,659	181,911	
Clerks, nurses, attendance officers	18,600	25,000	160,528[c]	
Miscellaneous current expenses (less interest on indebtedness)				
Total....................	936,686	$1,246,542	$1,537,874	81%

[a]Figures in this column are taken from Bulletin No. 39, pp. 32, 34.

[b]Teachers.......... 814,169
Supervisors........ 8,400
Principals........ 26,933
_____
849,502

[c]In keeping with our usual procedure $71,901,000 was subtracted from miscellaneous current expenses because this is entered as "interest on indebtedness," p. 34.

TABLE XV

RATIO OF PART-TIME MAN-YEARS TO FULL-TIME MAN-YEARS

State		Towns and Cities	
General administration..................	.11	Under 10,000.................	.49
		10–50,000....................	.10
		50–100,000...................	.08
County		100–250,000..................	.06
Metropolitan..........................	.13	250–500,000..................	.12
Urban................................	.21	Over 500,000.................	.004
Rural................................	.54	County-city consolidations......	.06

basis of such returns as were at hand.[1] Ratios between the numbers of full-time and part-time workers were

[1] Questionnaire material was available for the following groups: 20 states, 109 counties, 266 cities. But the extent of employment in terms of man-days was reported for only two-thirds of the various jurisdictions and the compensation for a much smaller number. The following table shows the ratio between the part-time "man-years" (*i.e.* total number of "man-days" divided by 300) and full-time "man-years" in the various jurisdictions reporting.

worked out for the units reporting both groups and such ratios applied to the several divisions. The results are included for what they may be worth. It will be noted that no estimates are entered for federal and public school employees although efforts were made to secure the pertinent information. The number of part-time workers in the payrolls of the federal government and the schools systems of the country would materially increase the totals.

Combining the figures found in the summaries of the preceding sections the following totals appear:

over one-half of the operating expenditures are absorbed by payrolls; in some categories, two-thirds or more is used

TABLE XVI

SUMMARY TABLE—NUMBER OF EMPLOYEES IN GOVERNMENT SERVICE, COMPENSATION AND OPERATING BUDGET OF 1926[1]

Jurisdiction	Number of full-time employees	Number of part-time employees	Total compensation for full- and part-time employees (in thousands)	Operating budgets (in thousands)	Compensation divided by operating budget (percentage)
Federal..........	848,349	No data	$1,200,867	$1,715,397	70%
States { Administration	153,226	137,000	218,492	602,558	36
Education..	68,123	......	114,979	192,898	60
Counties..........	142,415	278,000	258,952	601,310	43
Towns and cities ...	534,897	527,000	858,817	1,534,785	56
Public school system	936,686	No data	1,246,542	1,537,874	81
Totals.........	2,683,696	942,000	$3,898,649	$6,184,822	63%

[1] Data for the federal government are for 1926-27.

The significant figures in the foregoing table are as follows:

Operating budgets..........	$6,184,822,000
Compensation.............	3,898,649,000
Percentage—compensation of operating budgets........	63%
Full-time employees........	2,683,696
Part-time employees (partial)	942,000

On the basis of our computations, which have probably erred in the direction of conservativeness, it would appear that between three and one-half and four million people had more or less regularly some employment relationship to government in 1926. That is to say that one out of every eleven wage-earners was at one time or another in the course of the year a public employee. Government taken as a whole was then with its nearly four-billion-dollar payroll the largest employer of workers in the country. If one considers the essential character of the services performed by it, it was easily the most important of all employers. It is also to be noted that

for the purpose of compensating the personnel.

In the light of these facts the imperative need of adopting a progressive employment policy in the public services will not be disputed. Such a policy should aim not alone to bring satisfaction to public servants in the course of their regular work by stimulating interest, awarding salary increases and making promotions according to merit, but also to raise the prestige of governmental service, so that it may increasingly appeal to the better qualified young people as offering a satisfactory career for their life work. We may well take a leaf out of the book of foreign countries, particularly of England, where the public school and university systems are definitely tied in with government employment and where the better qualified young people are not alone encouraged to look forward to, but, as a matter of fact, do look forward to public employment as a satisfactory life career. It is an anomaly that

while governmental control is steadily advancing into most of the important areas of modern life, the public service is still so little attractive to the abler young people. To them it represents a second or third or even fourth choice. If this investigation results in pointing up this problem it will have served a useful purpose.

Finally, let it be emphasized that the inadequacy of public reporting and the difficulties involved in securing data from all public authorities made it necessary to depend on estimates and approximations. It is believed, however, that a broader basis for estimating the number of full-time employees and annual compensation has been set up in this study than in previous computations. This is the justification for what is confessedly an inadequate investigation. It is to be hoped that it may serve to stimulate better reporting on this important phase of administration and also further local investigations whereby a broader basis for a comprehensive study may be provided.

APPENDIX

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